

## **SAFE OPERATING PROCEDURE LABORATORY CHEMICAL SPILLS**

The Laboratory Chemical Spill procedures were created to give researchers and laboratory personnel a starting point for developing a chemical spill kit and providing guidance for cleaning up chemical spills. Chemical spills and accidents need to be minimized as much as possible. If a chemical spill should occur, a quick response with a stocked chemical spill kit will help minimize potential harm to personnel, equipment and laboratory space.

### ***Prepare and Plan a Spill Response***

Refer to the *Spill* sections in the [UT Arlington Emergency Procedures Quick Reference Guide](#) and the [UT Arlington Laboratory Safety Manual](#). Make sure that lab personnel understand these sections. If your lab has specific reagents that require special handling, write your own safe operating procedures (SOP) for these reagents and be sure everyone understands them. Keep all lab procedures, both general and specific, in a readily-accessible location in the lab. Posting them by each telephone is a common spot.

*Assemble a spill kit* tailored to clean up small spills of chemicals commonly used in your lab. Keep it fully stocked and easily accessible. Train personnel to use its contents and when it is safe to clean up a spill. Restock the spill kit after a spill so you will always have the materials prepared.

- Contents of a spill kit should include appropriate personal protective equipment (PPE), including gloves, disposable lab coats, shoe covers, and safety glasses; absorbent materials made for the reagents in your lab, such as organic solvent or corrosive spill pads, kitty litter, or vermiculite; a plastic (non-sparking) scoop; a broom and dustpan; sodium bicarbonate, citric acid, or a commercial neutralizer such as Spill-X to neutralize spills; materials or equipment for chemicals with special handling requirements (such as mercury); plastic bags to contain the waste; and UTA hazardous waste tags.

*Be sure everyone working in the lab knows:*

- Locations of fire extinguishers and manual pull stations, eye washes, emergency showers, and telephones;
- How to operate the fire extinguisher and when it's safe to do so;
- How to use the safety shower and eyewash.

### ***Evaluate the Spill***

You need to decide if you and/or lab personnel can handle the spill.

*Small, incidental spills* include spills that can be cleaned up by lab personnel without putting themselves or others in danger. If you are confident you can handle the spill yourself, go to the next section.

*Large or extremely dangerous spills* include:

- Spills that present an immediate hazard (fire, explosion, chemical exposure, etc.)
- Any spill of highly dangerous reagents
- Moderate or large-scale chemical spills.

If the spill is large or if you are unsure how to classify it, go to the dangerous spill section below.

### ***Clean Up Small Spills***

Fortunately, small spills represent the majority of chemical spills in labs. Handle them like this:

1. Alert people in the area. Avoid breathing vapors and try to determine what spilled.
2. If someone has been splashed with chemicals, immediately flush the affected area with water for at least 15 minutes. Call UTA Police Dispatch, 817-272-3003, and seek medical attention.
3. Wear personal protective equipment including appropriate eye protection, gloves, and a long-sleeved lab coat during cleanup.
4. Stop the source and confine the spill to a small area. Use a commercial kit or absorbent material from your spill kit to absorb spilled materials. If using a spreadable absorbent such as kitty litter or vermiculite, apply around the edges of the spill and work your way inward.
5. Place the saturated absorbent in a plastic bag.
6. Label the bag with a chemical waste tag and include it in your next hazardous waste collection.
7. Clean the spill area with soap and water.
8. Replenish your spill kit supplies so the kit is ready when you need it again.

### ***Clean Up Large or Dangerous Spills***

Contact specially-trained personnel and follow chemical spill procedures. Call UT Arlington Police Dispatch, 817-272-3003, and EH&S, 817-272-2185, and report the spill.

1. Avoid breathing vapors.
2. Quickly identify the spilled material and stop the source if you can do so safely.
3. If the spill involves a flammable liquid, turn off all ignition sources if you can do so safely.
4. Alert people in the area and evacuate, closing all doors.
5. If someone has been splashed with chemicals, flush the affected area with water for at least 15 minutes and seek medical attention.
6. Keep people away from the spill area until EH&S responders arrive. Lock doors and post warning signs.
7. Have someone available who is knowledgeable about the spilled material to provide information to EH&S responders.

### ***References***

[http://blink.ucsd.edu/Blink/External/Topics/How\\_To/0,1260,14121,00.html](http://blink.ucsd.edu/Blink/External/Topics/How_To/0,1260,14121,00.html)

[UTA Laboratory Safety Manual](#)

[UTA Emergency Procedures Quick Reference Guide](#)

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